

WHAT IS CLAIMED IS:

1. An electromagnetic drive for controlling the amount of light of a luminous flux comprising:

    a solenoid in which the winding axis of the coil is disposed in parallel with the direction of the luminous flux;

    a movable plunger moved in parallel with the direction of the luminous flux by a magnetic force of the solenoid; and

    a blade member driven by the movable plunger for controlling the amount of light.

2. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 1, wherein a plurality of solenoids are provided, and the plurality of solenoids are magnetically connected via a yoke member.

3. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 1, wherein the movable plunger includes a band of projection around thereof in the vicinity of the extremity of the movable plunger located in the solenoid, and the movable plunger is moved in the solenoid using the projection.

4. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 1, further comprising:

a bearing portion for supporting the movable plunger near the extremity thereof exposed out of the solenoid.

5. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 2, wherein the plurality of solenoids have different central inner diameters from each other.

6. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 2, wherein the plurality of solenoids have different outer diameters from each other.

7. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 6, wherein provided is a bearing portion which supports the movable plunger near the extremity thereof exposed out of the solenoid, a band of projection is formed on the peripheral surface near the extremity of the movable plunger to be fitted into the bearing portion, and the movable plunger is slidably moved in the bearing portion using the projection.

2025 RELEASE UNDER E.O. 14176

8. An electromagnetic drive for controlling the amount of light of a luminous flux comprising:

a solenoid in which the winding axis of the coil is disposed in parallel with the direction of the luminous flux;

a movable plunger moved in parallel with the direction of the luminous flux by a magnetic force of the solenoid;

a switching member for switching the direction in which a locomotive faculty of the movable plunger acts from the direction in parallel with the direction of a luminous flux into the direction in perpendicular to the direction of the luminous flux; and

a blade member driven by the locomotive faculty obtained by the switching member.

9. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 8, wherein the switching member pivots about the axis in parallel with the luminous flux.

10. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 8, wherein a plurality of solenoids are provided, and the plurality of solenoids are magnetically connected by a yoke member.

11. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 8, wherein the plurality of solenoids have different central inner diameters from each other.

12. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 8, wherein the plurality of solenoids have different outer diameters from each other.

13. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 8, wherein the movable plunger includes a band of projection around thereof in the vicinity of the extremity of the movable plunger located in the solenoid, and the movable plunger is moved in the solenoid using the projection.

14. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 10, further comprising:

a bearing portion for supporting the movable iron core at the extremity thereof exposed out of the solenoid.

15. An electromagnetic drive for controlling the

amount of light of a luminous flux according to Claim 14, wherein the movable plunger includes a band of projection on the peripheral surface at the extremity thereof to be fitted into the bearing portion, and the movable plunger is moved in the bearing portion using the projection.

16. An electromagnetic drive for controlling the amount of light of a luminous flux comprising:

a plurality of solenoids in which the winding axes of the coils lie on a plane perpendicular to the direction of the luminous flux;

a movable plunger moved along one of the winding axes by a magnetic force of the solenoid; and

a blade member driven by the movable plunger for controlling the amount of light of a luminous flux.

17. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 16, wherein the plurality of solenoids have different central inner diameters from each other.

18. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 16, wherein the plurality of solenoids have different outer diameters from each other.

19. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 16, wherein the plurality of solenoids are disposed along the direction of the luminous flux in such a manner that a plurality of winding axes of the coils are respectively lying on planes perpendicularly to the direction of the luminous flux are arranged in parallel with each other.

20. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 16, wherein the movable plunger includes a band of projection around thereof in the vicinity of the extremity of the movable plunger located in the solenoid, and the movable plunger is moved in the solenoid using the band of projection.

21. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 19, further comprising:

a bearing portion for supporting the movable plunger at the extremity thereof exposed out of the solenoid.

22. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 21,

wherein the movable plunger includes a band of projection on the peripheral surface near the extremity thereof to be fitted into the bearing portion, and the movable plunger is moved in the bearing portion using the projection.

23. An electromagnetic drive for controlling the amount of light of a luminous flux comprising:

a plurality of solenoids having respective center axes corresponding to different lines respectively;

a movable plunger moved along one of the axes of the plurality of solenoids by a magnetic force of the plurality of solenoids; and

a yoke member for forming magnetic fluxes generated from the plurality of solenoids into a loop.

24. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 23, wherein the plurality of solenoids have different central inner diameter from each other.

25. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 23, wherein the plurality of solenoids have different outer diameters from each other.

26. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 23, wherein the plurality of solenoids are disposed in parallel with each other.

27. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 23, wherein the movable plunger includes a projection around thereof in the vicinity of the extremity of the movable plunger located in the solenoid, and the movable plunger is moved in the solenoid using the projection.

28. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 26, further comprising:

a bearing portion for supporting the movable plunger at the extremity thereof exposed out of the solenoid.

29. An electromagnetic drive for controlling the amount of light of a luminous flux according to Claim 28, wherein the movable plunger includes a band of projection on the peripheral surface at the extremity thereof to be fitted into the bearing portion, and the movable plunger is moved in the bearing portion.